

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number
WO 2005/079261 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/US2005/004176

(22) International Filing Date: 11 February 2005 (11.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/544,501 13 February 2004 (13.02.2004) US

(71) Applicant (for all designated States except US): **WATERS INVESTMENT LIMITED** [US/US]; 109 Lukens Drive, New Castle, DE 19720 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GORENSTEIN, Marc, V.** [US/US]; 313 Brookline Street, Needham, MA 02492 (US). **LI, Guo-Zhong** [US/US]; 14 Morse Street, Westborough, MA 01581 (US).

(74) Agents: **GOTTS, Lawrence, J.** et al.; Shaw Pittman LLP, 1650 Tysons Boulevard, McLean, VA 22102-4859 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYSTEM AND METHOD FOR TRACKING AND QUANTITATING CHEMICAL ENTITIES

(57) Abstract: In complex separations, more than one entity may have the same molecular weight, to within the ability of instrument to distinguish. Accurate mass measurements are used in light of the previously unknown regularities in retention time to determine a retention time map. The retention time map allows a reference retention time to be assigned to each entity in a separation. The reference retention times, together with accurate mass measurements, can then be used to track and to compare entities between separations.



WO 2005/079261 A2